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History of sexual abuse in patients with bulimia nervosa: its influence on clinical status

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Introduction. Studies analyzing the relationship between sexual abuse and bulimia nervosa (BN) have reported discrepant results. This study aimed to assess the role of a history of sexual abuse in the clinical status of a group of patients diagnosed of BN using DSM-IV diagnostic criteria.

Methods. Seventy patients with BN were assessed using specific clinical tools: Eating Attitudes Test-40 items (EAT-40), Bulimia Investigation Test Edinburgh (BITE), Symptom Checklist (SCL-90), Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II), Sixteen Personality Factors Test (16-PF) and a clinical interview for the assessment of past and current substance abuse. The data from the 15 patients with a history of sexual abuse (21.4 % of the sample) were compared with those from the 55 patients without such a history.

Results. Both groups were very similar regarding symptom severity. Only the tendency to somatization and higher scores in the factor E of the 16-PF (dominance) were associated with antecedents of sexual abuse in the sample.

Conclusions. The results support the idea that sexual abuse may be related to higher non-specific vulnerability to psychopathology, but do not increase symptom severity in BN patients.

Key words:
Bulimia nervosa. Sexual abuse. Eating disorders. Risk factors. Psychopatology.

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Antecedentes de abusos sexuales en pacientes con bulimia nerviosa: su influencia en el estado clínico

Introducción. Los estudios que han analizado la relación entre abusos sexuales y bulimia nerviosa (BN) han arrojado resultados discordantes. El objetivo del presente estudio fue valorar la influencia de los antecedentes de abuso sexual en el estado clínico de un grupo de pacientes diagnosticados de BN con criterios DSM-IV.

Métodos. Fueron evaluados 70 pacientes con BN usando instrumentos clínicos específicos: el Test de Actitudes Alimentarias–40 ítems (EAT-40), el Test de Investigación de Bulimia Edimburgo (BITE), el Listado de Comprobación de Síntomas (SCL-90), la Entrevista Clínica Estructurada para los Trastornos del Eje II del DSM-IV (SCID-II), el Test de 16 Factores de Personalidad (16-PF) y una entrevista clínica para la valoración del uso pasado y actual de substancias. Los datos de los 15 pacientes con una historia previa de abusos sexuales (21,4 % de la muestra) fueron comparados con los de los 55 pacientes sin tales antecedentes.

Resultados. Ambos grupos fueron muy similares con respecto a la intensidad de los síntomas. Sólo la tendencia a la somatización y puntuaciones más altas en el factor E del 16-PF (dominancia) aparecieron asociados a los antecedentes de abusos sexuales en la muestra.

Conclusiones. Los resultados apoyan la idea de que los abusos sexuales pueden asociarse a una mayor vulnerabilidad no específica para presentar trastornos psicopatológicos, pero no aumentan la intensidad de la psicopatología en los pacientes con BN.

Palabras clave:
Bulimia nerviosa. Abuso sexual. Trastornos alimentarios. Factores de riesgo. Psicopatología.

INTRODUCTION

Several clinical studies associate the existence of sexual abuse in childhood with bulimia nervosa (BN). Although the figures given by the authors who study this phenomenon vary greatly, prevalence of sexual abuse background in BN diagnosed patients seems to be between 24 % and 65 %[1-8], sexual abuse preceding BN in most of the cases[5]. This fact has led to the defense of its role as a risk factor for appearance of eating disorder[1,9,13], also suggesting the association between sexual abuse and poor prognosis[14] and between sexual abuses and treatment drop-out[15]. An etiopa-

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thogenic mechanism has even been proposed. This would involve an alteration of the serotoninergic system in these patients as a result of the impact of abuse situations, which has been verified in some neurobiological studies[16,17]. However, not all the authors agree with the fact that sexual abuses are a risk factor for BN appearance. They have suggested that the high prevalence found could be the result of inadequate methodology, capable of inducing overdiagnosis of the condition[18,19], given that, when a rigorous methodology is applied, the prevalence figures are not very different from those found in the general population[5,18,20] or those detected in patients with other psychiatric disorders[8,21,22].

A history of sexual abuse background has also been associated with different clinical traits present in BN patients, such as greater severity of the eating disorder[23], greater severity of purgative behaviors[1,24], affective disorders[2,7,9], impulsiveness and self-injurious behaviors[7,9,10,25], dissociative experiences[12,13] and social functioning deficit[7].

Within this context, the present study aimed to compare two BN patient groups (patients with and without a history of sexual abuse background in childhood and/or adolescence) in relationship with four specific areas: eating disorder, psychopathology, personality and toxic use, given that the review of the literature supplied contradictory data regarding these four areas.

METHOD

Sample

The sample was composed of 70 female patients diagnosed of BN according to DSM-IV criteria. The patients followed treatment for their eating problem in a specific unit. During the treatment course, they were asked if they had had more or less hidden sexual contacts with someone who was at least five years older than they were and if the contacts, if they did exist, had been by sexual aggression or had been forced at some time of their lives before they were 13 (childhood) or between 13 and 18 years (adolescence). Self-reports were not used, because the patients often experience situations of sexual abuse with a feeling of shame that makes than conceal them when asked about them directly. Thus, it was preferred to use reports obtained during treatment, since the therapeutic relationship favors trust and reduces the concealing of significant information.

After introducing this criteria, the patients were distributed into two groups: the first, composed of 15 subjects who had a history of sexual abuse and the second by the 55 remaining patients who had no such a history. The patients with sexual abuse background in childhood and adolescence accounted for 21.4 % of the sample. They had suffered sexual aggression between 6 and 18 years of age, with a mean age of 12.6 (3.8) years. In most of these patients (12 of the 15, that is, 80 % of the cases), sexual abuse had occurred before the appearance of BN. There were no significant differences between both groups in regards to age (21.5 vs. 19.6; $t = 1.170$; $p = 0.259$), age of onset of the eating disorder (16.5 vs. 15.6; $t = 1.190$; $p = 0.238$), or in eating disorder evolution time (5.0 vs 4.0; $t = 0.834$; $p = 0.324$).

Assessment instruments

As has been said, the patients of both groups were compared regarding the following items: *a)* eating disorder; *b)* psychopathology; *c)* personality/dysfunctional personality traits; and d) use of substances. The following clinical instruments were used for this.

To evaluate eating disorder, the 40-item version of the Eating Attitudes Test (EAT-40) and the Bulimia Investigation Test Edinburgh (BITE) were used, analyzing the severity of the eating symptoms according to the score obtained from the latter.

The Symptom Checklist (SCL-90) was used to evaluate psychopathology, obtaining the scores regarding its different factors.

Personality was studied with the help of the Cattell's Personality Questionnaire 16PF and the DSM-IV Structured Clinical Interview for Axis II Disorders (SCID-II), isolating their factors and scores. In the quantification of the dysfunctional personality traits, and given the patients' age, we preferred to not make any personality disorder diagnoses but rather to work with the number of criteria that the patients had regarding the different disorders. This made it possible to conceptualize the results more in the sense of personality traits than in that of a disorder in the strictest sense.

Finally, past and/or present use of substances was assessed with a semistructured interview that analyzed the existence of consumption of the following substances: opiates, benzodiazepines, alcohol, cocaine/amphetamines, caffeine, tobacco, cannabis and alcohol.

Statistical procedures

The two groups were compared using the following statistical procedures: *a) t* test for independent samples for quantitative items; *b)* chi-squared test for qualitative items; and *c)* logistic regression analysis to assess the association between variables isolated and belonging to any of the groups. In every case, the SPSS version 10.0 statistical program was used. Given the number of hypotheses established, and to avoid type I error, significance level was adjusted in the first two procedures to 0.0125, applying Bonferroni's correction.

Table 1 Eating pathology

	With abuses	Without abuses	*t*	*p*
BITE score	22.6 (5.0)	20.8 (5.7)	1.142	0.258
EAT-40 score	57.9 (20.6)	53.6 (17.1)	0.835	0.407
Binge eating	4.5 (1.3)	4.6 (0.9)	-0.268	0.790
Vomiting	3.3 (1.5)	3.5 (1.7)	-0.427	0.671
Diet	2.1 (2.0)	1.6 (1.2)	0.920	0.371
Anorexigens	0.6 (1.5)	0.5 (1.3))	0.185	0.853
Diuretics	0.4 (0.8)	0.6 (1.5)	-0.488	0.627
Laxatives	2.4 (2.4)	1.9 (2.0)	1.029	0.307
Exercise	1.8 (1.9)	1.5 (1.9)	0.536	0.594
No. of compensatory measures	3.3 (1.0)	3.0 (1.3)	1.097	0.276

Data source: EAT-40/BITE.

RESULTS

Tables 1, 2, 3, 4 and 5 show the results obtained when comparing both groups. As can be observed, and according to our data, patients with a history of sexual abuse of our sample had: *a)* eating symptoms that were similar in severity and characteristics to that of patients without such a history; *b)* greater tendency to somatization; *c)* personality profile characterized by higher scores in factor E and factor L of 16-PF, as well as lower scores in factors N and Q3, and also more histrionic personality traits. However, after introducing the restriction in the above described significance level, only tendency to somatization (SCL-90), existence of higher scores in factor E (16-PF) and greater presence of histrionic personality traits (SCID-II) appeared as significant regarding group typing.

Two of these factors appeared as significant in the logistic regression analysis: somatization (with a 3.8 odds ratio) and elevated score in the E factor (1.8 odds ratio). Table 6 shows the results obtained in the logistic regression study.

Table 2 Psychopathology

	With abuses	Without abuses	*t*	*p*
Somatization	2.2 (0.7)	1.6 (0.8)	2.821	0.006
Obsessive-compulsive	2.3 (0.8)	2.1 (0.9)	0.770	0.444
Interpersonal sensitivity	2.6 (0.5)	2.2 (0.8)	1.742	0.086
Depression	2.4 (0.4)	2.2 (0.6)	1.460	0.149
Anxiety	2.2 (0.6)	1.9 (0.8)	1.678	0.098
Hostility	2.3 (0.7)	1.9 (0.9)	1.464	0.148
Phobic anxiety	1.5 (0.7)	1.2 (0.9)	1.321	0.191
Paranoid anxiety	2.1 (0.7)	1.9 (0.8)	1.035	0.304
Psychoticism	1.8 (0.5)	1.7 (0.7)	0.728	0.469
Global severity index	2.0 (0.4)	1.8 (0.6)	1.379	0.173

Data source: SCL-90.

Table 3 Personality

	With abuses	Without abuses	*t*	*p*
Factor A	6.4 (2.6)	6.3 (1.9)	0.160	0.874
Factor B	4.7 (2.4)	5.4 (1.9)	-1.247	0.217
Factor C	4.1 (1.9)	4.0 (2.3)	0.073	0.942
Factor E	6.7 (2.5)	4.8 (1.6)	3.448	0.001
Factor F	6.5 (2.2)	5.6 (2.1)	1.500	0.138
Factor G	4.5 (2.3)	4.9 (1.6)	-0.659	0.518
Factor H	5.9 (2.8)	4.8 (2.6)	1.367	0.176
Factor I	5.7 (1.9)	6.3 (2.2)	-0.837	0.406
Factor L	6.4 (2.0)	5.1 (2.0)	2.172	0.033
Factor M	4.5 (1.6)	4.8 (2.3)	-0.553	0.582
Factor N	4.8 (1.9)	5.9 (1.7)	-2.285	0.026
Factor O	7.7 (1.5)	7.4 (2.1)	0.586	0.560
Factor Q1	4.9 (2.1)	4.6 (2.0)	0.385	0.701
Factor Q2	5.5 (1.9)	6.2 (2.0)	-1.210	0.230
Factor Q3	3.9 (2.3)	5.2 (1.7)	-1.957	0.066
Factor Q4	7.1 (1.5)	7.3 (1.9)	-0.287	0.775

Data source: 16-PF.

Table 4 Dysfunctional personality traits

	With abuses	Without abuses	*t*	*p*
Paranoid	0.5 (0.3)	0.6 (0.3)	-0.240	0.811
Schizoid	0.3 (0.2)	0.3 (0.2)	0.000	1.000
Schizotypal	0.5 (0.3)	0.4 (0.2)	1.033	0.315
Histrionic	0.6 (0.2)	0.4 (0.2)	2.966	0.004
Narcissistic	0.5 (0.2)	0.4 (0.2)	2.287	0.025
Borderlines	0.6 (0.2)	0.6 (0.2)	0.472	0.639
Antisocials	0.1 (0.1)	0.1 (0.1)	0.689	0.493
Avoidance	0.5 (0.2)	0.5 (0.3)	-0.530	0.598
Dependent	0.5 (0.3)	0.5 (0.3)	0.269	0.789
Obsessive-compulsive	0.5 (0.2)	0.5 (0.2)	0.801	0.426

Data source: SCID-II.

Table 5 Use of toxic agents

	With abuses	Without abuses	χ^s	*p*
Opiates	0 (0%)	0 (0%)	—	—
Benzodiazepines	4 (26.7%)	9 (16.4%)	0.286*	0.455
Alcohol	6 (40%)	22 (40.0%)	0	1
Cocaine	0 (0.0%)	0 (0.0%)	—	—
Caffeine	11 (73.3%)	43 (78.2%)	0.157	0.047
Tobacco	9 (60%)	32 (58.2%)	0.016	1
Cannabis	2 (13.3%)	1 (1.8%)	1.520*	0.114
Analgesics	5 (33.3%)	17 (30.9%)	0.032	1

Data source: clinical interview. *Correction of continuity.

DISCUSSION

As mentioned in the introduction, influence of sexual abuse in BN appearance is presently a debatable subject. Our results contribute to this controversy, given that they do not provide conclusive data. In this sense, they confirm some of the points of view given in the literature reviewed while contradicting others.

The relationship between sexual abuse and eating disorders may be conceived from a double hypothesis[26]. According to the first (called «general hypothesis»), sexual abuse would be a risk factor for the appearance of psychopathological disorders in general. The second hypothesis (called «specific hypothesis») would defend the existence of a special link between sexual abuses and eating disturbance (in our specific case, between sexual abuses and BN). Our study, which did not find specific factors capable of unmistakably relating sexual abuse and eating disorder, seems to verify the first hypothesis, according to which sexual abuse would be a predisposing factor for the appearance of psychopathology in general, more than an element specifically linked to eating disorder[8,20-22].

Table 6 Logistic regression study

Predictor	*Odds ratio*	Significance	95% confidence interval	
			Inferior	Superior
Somatization (SCL-90)	3.82	0.011	1.35	10.79
Factor E (16-PF)	1.81	0.006	1.19	2.77

Variables that are not in the equation: factor L (16-PF), factor N (16-PF), histrionic traits (SCID-II), narcissistic traits (SCID-II). Cases correctly classified: 83.6%.

On the other hand, considering sexual abuse as a direct or indirect risk factor for BN appearance requires its presence prior to the onset of the eating problem and the determination of a more or less specific causal connection between both phenomena. In our case, and although sexual abuses occurred in 80 % of the cases before BN appearance, it is impossible to establish the causal connection between both factors, so that the discussion should focus from here on not so much on the potential capacity of the former to condition the existence of eating dysfunction but on its hypothetical power to modulate the clinical form of the eating disorder. Thus, we have focused on the analysis of the existing differences on the clinical level between the patients of the two separate groups.

In our sample, we could not detect differences in the severity of the eating disorder between patients with and without a history of sexual abuse history. As has been commented on, our groups were very similar in regards to the scores on the scales that measured eating dysfunction (EAT-40 and BITE) and also in the frequency with which manifestations characteristic of the eating disorder were detected (binge eating, vomiting and other purgative behaviors). In our case, coinciding with that stated by Folsom et al.[20] and on the contrary to that defended by other authors[1,23], patients with sexual abuse history did not have a higher degree of eating dysfunction or a greater number of compensating behaviors. We also did not find more depressive symptoms or greater impulsivity (that could occur, among other elements, due to a greater prevalence of borderline personality traits), which is contradictory to that defended by those authors who consider sexual abuses as a favoring phenomenon of the appearance of such clinical traits[2,7,9,10,25].

The idea that sexual abuses has significant and lasting effects on the body image, identity, self-regulation and interpersonal functioning has been defended[27]. In this sense, these experiences would be capable of increasing vulnerability in general, increasing the risk of suffering psychopathological disorders, but not specifically favoring the appearance of eating disturbance. Even more, according to that defended by some authors who have taken on the study of this phenomenon, the general characteristics of the interpersonal setting during childhood and the abuse experiences of it could be those that facilitate the appearance of the eating disturbance in the later stages[28,29]. It would also be important to differentiate between isolated experiences of sexual abuse, which doubtfully may affect psychosexual development of the subject significantly[6], and the repeated experiences or multiple abuses, which could have a greater pathogenic potential[8,30-32]. Certain associated factors, such as, for example, the fact that the abuse is intrafamilial, entailing the use of violence or in very early ages, could also modulate the capacity of the abuses to generate pathology[33].

Although the coadjuvant role of substances in the process that goes from sexual abuse to the appearance of eating

disturbance has been suggested[34], our results do not confirm this point, since we have not detected a greater tendency to use of substances in the group with a history of sexual abuse. The role of certain personality disorders, and more specifically of the borderline pathology, has also been defended as mediators in the process[17], although this fact has not been demonstrated unequivocally[35]. In our patients, we can observe how those who have a history of sexual abuse tend to have more histrionic traits than those lacking such a history, but not of the borderline personality traits.

Since we are discussing the findings that appear in our sample as significantly linked to the fact of having a history of sexual abuse, we stress the association detected between tendency to somatization and existence of physical and sexual abuses in childhood. This correlation has already been manifested by other authors in patients with somatophorm disorders[36,37], however, as far as we know, it has not been previously reported in bulimic patients. We consider that the producing mechanisms could be partially in common, involving both biological factors (vulnerability on the serotoninergic system level) as well as psychological factors (tendency to deal with the internal conflicts generated by the abuse situation on the body level).

Another one of the findings is related with the personality traits detected in the subjects with history of sexual abuse. In our case, these patients tend to have higher scores in the Factor E of 16-PF, that are related with the tendency to be dominant in interpersonal relationships. The subjects with elevated scores in this factor tend to tyrannize and be hostile in their relationship with others, appearing as obstinate, dogmatic and competitive. It is possible that these traits are a consequence of previous relationships in which they have felt tyrannized, used and put down, and that reflect a basic attitude of resentment in relationship with the world. This fact could explain the poor prognosis that is sometimes associated to the background of sexual abuses[14], since this attitude could hinder the psychotherapeutic process, which is a central element in the treatment of patients with bulimia nervosa.

In any event, and in view of that established above, it seems that more studies are needed on the subject in which bulimic patients with a history of sexual abuse are compared with individuals who have experienced other types of deficiencies in childhood or who have been exposed to other type of negative situations. The studies should also compare the subjects who have suffered repeated situations of sexual abuse compared to those who have had more or less isolated experiences, since it will only be possible in this way to have an adequate idea of the true role of sexual abuses as a risk factor for the appearance of BN.

REFERENCES

1. Dansky BS, Brewerton TD, Kilpatrick DG, O'Neil PM. The National Women's Study: relationship of victimization and posttraumatic stress disorder to bulimia nervosa. Int J Eat Disord 1997;21: 213-28.
2. Hall RC, Tice L, Beresford TP, Wooley B, Hall AK. Sexual abuse in patients with anorexia nervosa and bulimia. Psychosomatics 1989; 30:73-9.
3. Oppenheimer R, Howells K, Palmer RL, Chaloner DA. Adverse sexual experience in childhood and clinical eating disorders: a preliminary description. J Psychiatr Res 1985;19:357-61.
4. Palmer RL, Oppenheimer R, Dignon A, Chaloner DA, Howells K. Childhood sexual experiences with adults reported by women with eating disorders: an extended series. Br J Psychiatry 1990; 156:699-703.
5. Pope HG Jr, Mangweth B, Negrao AB, Hudson JI, Cordas TA. Childhood sexual abuse and bulimia nervosa: a comparison of American, Austrian, and Brazilian women. Am J Psychiatry 1994; 151:732-7.
6. Schmidt U, Evans K, Tiller J, Treasure J. Puberty, sexual milestones and abuse: how are they related in eating disorder patients? Psychol Med 1995;25:413-7.
7. Sullivan PF, Bulik CM, Carter FA, Joyce PR. The significance of a history of childhood sexual abuse in bulimia nervosa. Br J Psychiatry 1995;167:679-82.
8. Welch SL, Fairburn CG. Childhood sexual and physical abuse as risk factors for the development of bulimia nervosa: a community-based case control study. Child Abuse Negl 1996;20:633-42.
9. Favaro A, Santonastaso P. Different types of self-injurious behavior in bulimia nervosa. Compr Psychiatry 1999;40:57-60.
10. Favaro A, Santonastaso P. Impulsive and compulsive self-injurious behavior in bulimia nervosa: prevalence and psychological correlates. J Nerv Ment Dis 1998;186:157-65.
11. Garfinkel PE, Lin E, Goering P, et al. Bulimia nervosa in a Canadian community sample: prevalence and comparison of subgroups. Am J Psychiatry 1995;152:1052-8.
12. Herzog DB, Staley JE, Carmody S, Robbins WM, van der Kolk BA. Childhood sexual abuse in anorexia nervosa and bulimia nervosa: a pilot study. J Am Acad Child Adolesc Psychiatry 1993; 32:962-6.
13. Mangweth B, Pope HG, Hudson JI. Bulimia nervosa in two cultures: a comparison of Austrian and American college students. Int J Eat Disord 1995;17:403-12.
14. Gleaves DH, Eberenz KP. Sexual abuse histories among treatment-resistant bulimia nervosa patients. Int J Eat Disord 1994; 15:227-31.
15. Mahon J, Bradley SN, Harvey PK, Winston AP, Palmer RL. Childhood trauma has dose-effect relationship with dropping out from psychotherapeutic treatment for bulimia nervosa: a replication. Int J Eat Disord 2001;30:138-48.
16. Steiger H, Gauvin L, Israel M, et al. Association of serotonin and cortisol indices with childhood abuse in bulimia nervosa. Arch Gen Psychiatry 2001;58:837-43.
17. Steiger H, Leonard S, Kin NY, Ladouceur C, Ramdoyal D, Young SN. Childhood abuse and platelet tritiated-paroxetine binding in bulimia nervosa: implications of borderline personality disorder. J Clin Psychiatry 2000;61:428-35.
18. Connors ME, Morse W. Sexual abuse and eating disorders: a review. Int J Eat Disord 1993;13:1-11.
19. Pope HG Jr, Hudson JI. Is childhood sexual abuse a risk factor for bulimia nervosa? Am J Psychiatry 1992;149:455-63.

20. Folsom V, Krahn D, Nairn K, Gold L, Demitrack MA, Silk KR. The impact of sexual and physical abuse on eating disordered and psychiatric symptoms: a comparison of eating disordered and psychiatric inpatients. Int J Eat Disord 1993;13:249-57.
21. Waller G. Sexual abuse as a factor in eating disorders. Br J Psychiatry 1991;159:664-71.
22. Welch SL, Fairburn CG. Sexual abuse and bulimia nervosa: three integrated case control comparisons. Am J Psychiatry 1994; 151:402-7.
23. DeGroot JM, Kennedy S, Rodin G, McVey G. Correlates of sexual abuse in women with anorexia nervosa and bulimia nervosa. Can J Psychiatry 1992;37:516-8.
24. Garfinkel PE, Lin E, Goering P, et al. Purging and nonpurging forms of bulimia nervosa in a community sample. Int J Eat Disord 1996;20:231-8.
25. Lacey JH. Self-damaging and addictive behaviour in bulimia nervosa. A catchment area study. Br J Psychiatry 1993;163: 190-4.
26. Palmer RL. Sexual abuse and eating disorders. Brownell KD, Fairburn CG, Editors. Eating disorders and obesity: a comprehensive handbook. New York: Guilford Press, 1995; p. 230-3.
27. Kearney-Cooke A, Striegel-Moore RH. Treatment of childhood sexual abuse in anorexia nervosa and bulimia nervosa: a feminist psychodynamic approach. Int J Eat Disord 1994;15:305-19.
28. Fallon BA, Sadik C, Saoud JB, Garfinkel RS. Childhood abuse, family environment, and outcome in bulimia nervosa. J Clin Psychiatry 1994;55:424-8.
29. Rorty M, Yager J, Rossotto E. Aspects of childhood physical punishment and family environment correlates in bulimia nervosa. Child Abuse Negl 1995;19:659-67.
30. Rorty M, Yager J, Rossotto E. Childhood sexual, physical, and psychological abuse and their relationship to comorbid psychopathology in bulimia nervosa. Int J Eat Disord 1994;16:317-34.
31. Rorty M, Yager J, Rossotto E. Childhood sexual, physical, and psychological abuse in bulimia nervosa. Am J Psychiatry 1994; 151:1122-6.
32. Schmidt U, Tiller J, Treasure J. Setting the scene for eating disorders: childhood care, classification and course of illness. Psychol Med 1993;23:663-72.
33. Waller G. Sexual abuse and the severity of bulimic symptoms. Br J Psychiatry 1992;161:90-3.
34. Deep AL, Lilenfeld LR, Plotnicov KH, Pollice C, Kaye WH. Sexual abuse in eating disorder subtypes and control women: the role of comorbid substance dependence in bulimia nervosa. Int J Eat Disord 1999;25:1-10.
35. Waller G. Sexual abuse and eating disorders. Borderline personality disorder as a mediating factor? Br J Psychiatry 1993; 162:771-5.
36. Hotoph M, Carr S, Mayou R, Wadsworth M, Wessely S. Why do children have chronic abdominal pain, and what happens to them when they grow up? Br Med J 1998;316:1196-200.
37. Leserman J, Drossman DA, Li Z, Toomey TC, Nachman G, Glogau L. Sexual and physical abuse history in gastroenterology practice: how types of abuse impact health status. Psychosom Med 1996;58:4-15.